

LEVEL

12

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1981

SUBMITTED TO CONGRESS

JANUARY 1980



PART 2 OF 5 PARTS
(MISSILES)

PROCUREMENT

PROGRAMS

AIRCRAFT	MISSILES
WEAPONS & TRACKED COMBAT VEHICLES	
AMMUNITION	OTHER

Approved

This document has been approved for public release and sale; its distribution is unlimited.

ADA082806

DDC FILE COPY

DTIC
ELECTE
APR 7 1980

C

11

1255

80 4 7 051

9082805

DEPARTMENT OF THE ARMY
Office of the Deputy Chief of Staff
For
RESEARCH, DEVELOPMENT AND ACQUISITION

This document has been approved
for public release and sale; its
distribution is unlimited.

Accession For	
NTIS	<input checked="" type="checkbox"/>
DOC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution	
Availability	
Available 2/ or	
Special	
Dist	A

28 January 1980

DEPARTMENT OF THE ARMY
PROCUREMENT APPROPRIATIONS

Justification of Estimates for Fiscal Year 1981, 82 (Auth only)

TABLE OF CONTENTS Page No.

Aircraft Procurement, Army	1-1
Missile Procurement, Army	2-1
Procurement of Weapons and Tracked Combat Vehicles, Army..	3-1
Procurement of Ammunition, Army	4-1
Other Procurement, Army	5-1
Procurement of Equipment and Missiles, Army	6-1

Department of the Army
Missile Procurement, Army

Justification of Estimates for Fiscal Year 1981, 1982

TABLE OF CONTENTS

	<u>Page No.</u>
Section 1 - Budget Appendix Extract	2-1
Section 2 - Introductory Statement.....	2-10
Section 3 - Summary of Requirements.....	2-12
Section 4 - Budget Activity Justification.....	2-15
Section 5 - Comparison of Program Requirements and Financing.....	2-27
Section 6 - Selected Data Sheets.....	2-32
Section 7 - Analysis of Unobligated Balances.....	2-33
Section 8 - Modification of Missiles.....	2-36
Section 9 - Flight Simulators.....	2-49
Section 10 - War Reserve - Secondary Items.....	2-50

MISSILE PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

2-1 1/21/80

APPROPRIATION LANGUAGE

For construction, procurement, production, modification, and modernization of missiles, equipment, including ordinance, ground handling equipment, spare parts, and accessories, therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title as required by section 355, Revised Statutes, as amended; and procurement and installation of equipment appliances, and machine tools in public and private plants; reserve plants and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; (\$1,140,800,000) \$1,501,300,000 to remain available for obligation until September 30, (1982) 1983. (1)
(2)

(10 U. S. C. 2353, 3012, 4531, 31 U. S. C. 649c; Department of Defense Appropriation Act, 1980; additional authorizing legislation to be proposed.)

EXPLANATION OF LANGUAGE CHANGES

- (1) To change the amount of appropriation requested for FY 1981.
- (2) To change the obligation expiration date for the FY 1981 program.

Army

Missile Procurement, Army

28 JAN 80

Program and Financing (in thousands of dollars)

Identification code	21-2032-0-1-051	Budget plan (amounts for procurement actions programmed)				Obligations	
		1979 actual		1981 est.		1979 actual	1980 est.
		1980 est.	1981 est.	1980 est.	1981 est.		
Program by activities:							
Direct:							
2.	Other missiles	613,700	890,600	1,146,500	543,925	834,107	1,100,828
3.	Modification of missiles	68,900	124,700	203,100	69,874	86,981	192,300
4.	Sparos and repair parts	55,500	117,500	109,900	53,883	139,149	107,500
5.	Support equipment and facilities	23,800	29,700	41,600	29,481	33,062	33,435
	Total direct	761,900	1,162,500	1,501,300	697,163	1,093,299	1,434,463
	Reimbursable program	377,918	400,000	222,000	356,268	361,701	256,537
	Total	1,139,818	1,562,500	1,723,300	1,053,431	1,455,000	1,691,000
Financing:							
Offsetting collections from:							
11.00	Federal funds	-45,721	-29,200	-34,300	-40,528	-28,000	-34,320
13.00	Trust funds	-331,985	-370,800	-187,700	-333,104	-368,700	-187,700
14.00	Non-federal sources	-212			-355		
21.40	Unobligated balance available, start of year:						
	For completion of prior year budget plans				-130,212	-197,199	-301,399
24.40	Reprogramming from or to prior year budget plans	-15,468					
	Unobligated balance available, end of year:						
	For completion of prior year budget plans	15,468			197,199	301,399	333,699
25.00	Unobligated balance lapsing				15,468		
	Budget authority	761,900	1,162,500	1,501,300	761,900	1,162,500	1,501,300
Budget authority:							
40.00	Appropriation	736,900	1,140,800	1,501,300	736,900	1,140,800	1,501,300
42.00	Transferred from other accounts	25,000	21,700		25,000	21,700	
43.00	Appropriation (adjusted)	761,900	1,162,500	1,501,300	761,900	1,162,500	1,501,300
Relation of obligations to outlays:							
71.00	Obligations incurred, not				679,444	1,058,300	1,469,000
72.40	Obligated balance, start of year				572,878	689,558	1,130,858
74.40	Obligated balance, end of year				-689,558	-1,130,858	-1,601,858
77.00	Adjustments in expired accounts				-15,857		
	Outlays				546,907	617,000	986,000

Missile Procurement, Army

20 JAN 80

Object Classification (in thousands of dollars)

Identification code 21-2032-0-1-081

1979 actual 1980 est. 1981 est.

Direct obligations:

22.0 Transportation of things
25.0 Other services:
Contracts
26.0 Supplies and materials
31.0 Equipment

Total direct obligations

Reimbursable obligations:

25.0 Other services:
Contracts
26.0 Supplies and materials
31.0 Equipment

Total reimbursable obligations

Total obligations

860			
201,560	347,090	491,690	
414,812	676,209	852,800	
79,931	70,000	88,973	
697,163	1,093,299	1,434,463	
103,674	137,825	90,050	
211,978	185,518	125,225	
40,616	37,358	41,262	
356,268	361,701	256,537	
1,053,431	1,455,000	1,691,000	

28 JAN 80

Missile Procurement, Army

1977 Fiscal year program

Program and Financing (in thousands of dollars)

Obligations

Budget plan (amounts for
procurement actions programmed)

Identification code	21-2032-0-1-051	1979 actual	1980 est.	1981 est.	1979 actual	1980 est.	1981 est.
Program by activities:							
Direct:							
2. Other missiles					4,149		
3. Modification of missiles					3,546		
4. Spares and repair parts					1,234		
5. Support equipment and facilities					2,124		
Total direct					11,053		
Reimbursable program					68		
Total					11,121		
Financing:							
Offsetting collections from:							
11.00 Federal funds					2,315		
13.00 Trust funds					-2,650		
14.00 Non-federal sources					28		
21.40 Unobligated balance available, start of year:					-26,282		
For completion of prior year budget plans							
Reprogramming from or to prior year budget plans					15,468		
25.00 Unobligated balance lapsing							
Budget authority							

Army

Missile Procurement, Army

28 JAN 60

Program and Financing (in thousands of dollars)		1978 Fiscal year program		
Identification code	21-2032-0-1-051	Budget plan (amounts for procurement actions programmed)		Obligations
		1979 actual	1980 est.	
Program by activities:				
Direct:				
	2. Other missiles	11,913	2,613	
	3. Modification of missiles	1,459	340	
	4. Spares and repair parts	27,078	5,780	
	5. Support equipment and facilities	6,006	2,528	
	Total direct	46,406	11,461	
	Reimbursable program	25,760	10,764	
	Total	74,166	22,225	
10.00	Total			
Financing:				
Offsetting collections from:				
11.00	Federal funds	2,678	1,200	
13.00	Trust funds	1,531	2,100	
14.00	Non-federal sources	-171		
21.40	Unobligated balance available, start of year:	-103,930	-25,525	
24.40	For completion of prior year budget plans:			
	Unobligated balance available, end of year:	25,525		
	For completion of prior year budget plans			
	Budget authority			

Army

Missile Procurement, Army

28 JAN 80

Program and Financing (in thousands of dollars)

1979 Fiscal year program
Obligations

Identification code 21-2032-0-1-051

Budget plan (amounts for
procurement actions programmed)

1979 actual 1980 est. 1981 est. 1979 actual 1980 est. 1981 est.

Program by activities:

Direct:

- 2. Other missiles
- 3. Modification of missiles
- 4. Spares and repair parts
- 5. Support equipment and facilities

Total direct

Reimbursable program

Total

613,700	.....	527,853	61,154	24,683
68,900	.....	64,859	1,241	2,800
55,500	.....	25,631	27,669	2,200
23,800	.....	19,351	3,649	800
761,900	.....	637,704	93,713	30,483
377,918	.....	330,440	30,637	16,641
1,139,618	.....	968,144	124,550	47,124

Financing:

Offsetting collections from:

- 11.00 Federal funds
- 13.00 Trust funds
- 14.00 Non-federal sources
- 21.40 Unobligated balance available, start of year:
- For completion of prior year budget plans
- 24.40 Unobligated balance available, end of year:
- For completion of prior year budget plans

Budget authority

Budget authority:

- 40.00 Appropriation
- 42.00 Transferred from other accounts
- 43.00 Appropriation (adjusted)

-45,721	.....	-45,721	.....	.....
-331,985	.....	-331,985	.....	.....
-212	.....	-212	.....	.....
.....	.....	.....	-171,674	-47,124
.....	.....	171,674	47,124	.....
761,900	.....	761,900	.....	.....
736,900	.....	736,900	.....	.....
25,000	.....	25,000	.....	.....
761,900	.....	761,900	.....	.....

28 JAN 80

Missile Procurement, Army

Program and Financing (in thousands of dollars)

1980 Fiscal Year Program Obligations

Identification code	21-2032-0-1-051	Budget plan (amounts for procurement actions programmed)				Obligations	
		1979 actual		1981 est.		1979 actual	1981 est.
		1979 actual	1980 est.	1981 est.	1982 est.	1979 actual	1981 est.
Program by activities:							
Direct:							
13.00	2. Other missiles	.....	890,600	.....	770,140	112,975
21.40	3. Modification of missiles	.....	124,700	.....	85,400	5,700
24.40	4. Spares and repair parts	.....	117,500	.....	105,700	7,100
	5. Support equipment and facilities	.....	29,700	.....	26,885	2,100
		
		.....	1,162,500	.....	988,125	127,875
		.....	400,000	.....	320,100	62,500
		
		.....	1,562,500	.....	1,308,225	190,375
10.00	Total	.....	.....	.....	.....	.....
Financing:							
Offsetting collections from:							
11.00	Federal funds	.....	-29,200	.....	-29,200	.....
13.00	Trust funds	.....	-370,600	.....	-370,600	.....
21.40	Unobligated balance available, start of year:	.....	.....	.....	.....	.....
	For completion of prior year budget plans	.....	.....	.....	.....	.....
24.40	Unobligated balance available, end of year:	.....	.....	.....	254,275	63,900
	For completion of prior year budget plans	.....	.....	.....	.....	.....
		.....	1,162,500	.....	1,162,500	.....
Budget authority							
Budget authority:							
40.00	Appropriation	.....	1,140,600	.....	1,140,600	.....
42.00	Transferred from other accounts	.....	21,700	.....	21,700	.....
43.00	Appropriation (adjusted)	.....	1,162,500	.....	1,162,500	.....

28 JAN 80

Missile Procurement, Army

Army

Program and Financing (in thousands of dollars)

1981 Fiscal year program obligations

Identification code 21-2032-0-1-051

Budget plan (amounts for procurement actions programmed)

1979 actual 1980 est. 1981 est. 1979 actual 1980 est. 1981 est.

Program by activities:

Direct:

2. Other missiles
3. Modification of missiles
4. Spares and repair parts
5. Support equipment and facilities

Total direct

Reimbursable program

10.00 Total

Financing:

Offsetting collections from:

11.00 Federal funds

13.00 Trust funds

24.40 Unobligated balance available, end of year:
For completion of prior year budget plans

Budget authority

1,146,500	1,146,500	1,146,500	963,170
203,100	203,100	203,100	183,800
109,900	109,900	109,900	98,600
41,800	41,800	41,800	30,535
1,501,300	1,501,300	1,501,300	1,276,105
222,000	222,000	222,000	177,396
1,723,300	1,723,300	1,723,300	1,453,531
-34,300	-34,300	-34,300	-34,300
-187,700	-187,700	-187,700	-187,700
1,501,300	1,501,300	1,501,300	1,501,300

MISSILE PROCUREMENT, ARMY

Section 2

Introductory Statement

2-10 1/21/80

DEPARTMENT OF THE ARMY
ANNUAL BUDGET ESTIMATES

Appropriation:	FY 1981, 82
Missile Procurement, Army	Budget

Section 2 - INTRODUCTORY STATEMENT

This appropriation finances the acquisition of surface-to-air, surface-to-surface, and antitank/assault missile systems. Also included are major components, modifications, targets, test equipment, and depot repairable spares and repair parts; production base support; and depot maintenance plant equipment..

The FY 1981 program continues procurement of the TOW antitank/assault missile system, the Improved HAWK and CHAPARRAL, replacement motors, STINGER, PATRIOT, and US ROLAND air defense systems, and the General Support Rocket System (GSRs). Procurement is initiated for the HELLFIRE Heliborne Missile System. Also included is procurement for the modifications of the CHAPARRAL, Improved HAWK, LANCE, PERSHING, and TOW Missile Systems.

The FY 1982 program continues procurement of CHAPARRAL and HAWK replacement motors, the US ROLAND, the HELLFIRE missile system and PATRIOT air defense systems, the STINGER manportable air defense weapon, the TOW antitank/assault missile system, and the GSRs. Procurement is initiated for the PERSHING II missile system. Also included is procurement for the modifications of the Improved HAWK, LANCE, and TOW systems.

MISSILE PROCUREMENT, ARMY

Section 3

Summary of Requirements

2-12 1/21/80

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

Appropriation:	FY 1979 Actual	FY 1980 Estimate	FY 1981 Estimate
Missile Procurement, Army			
Antiballistic system.....	-0-	-0-	-0-
Other missiles.....	\$613,700	\$ 890,600	\$1,146,500
Modification of missiles.....	68,900	124,700	203,100
Spares and repair parts.....	55,500	117,500	109,900
Support equipment and facilities.....	23,800	29,700	41,800
Total Direct Program.....	\$761,900	\$1,162,500	\$1,501,300
Reimbursable Program.....	377,918	400,000	222,000
TOTAL PROGRAM REQUIREMENTS.....	\$1,139,818	\$1,562,500	\$1,723,300
Less: Portion of program to be obligated in subsequent fiscal years.....	171,674	254,275	269,799
Plus: Obligation incurred against prior year program funds.....	85,287	146,775	237,499
TOTAL OBLIGATIONS.....	\$1,053,431	\$1,455,000	\$1,691,000

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

Appropriation:		FY 1982 Estimate
Missile Procurement, Army		
Antiballistic systems.....		0
Other missiles.....		\$1,785,400
Modification of missiles.....		296,800
Spares and repair parts.....		157,200
Support equipment and facilities.....		35,400
Total Direct Program.....		\$2,274,800

2-14 1/21/80

MISSILE PROCUREMENT, ARMY

Section 4

Budget Activity Justification

Activity 1 - Antiballistic Missile System

Activity 2 - Other Missiles

Activity 3 - Modification of Missiles

Activity 4 - Spares and Repair Parts

Activity 5 - Support Equipment and Facilities

2-15 1/21/80

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army	FY 1981 Budget	
		(In Thousands of Dollars)	
		Actual Fiscal Year 1979	Estimate Fiscal Year 1980 Fiscal Year 1981
Budget Program or Budget Project Account			
Activity 1 - Antibalistic Missile System (SAFEGUARD)			
Direct Obligations or Direct Budget Plan	\$ -0-	\$ -0-	\$ -0-

Section 1 - PURPOSE AND SCOPE

These funds provide for procurement of the SAFEGUARD Antiballistic Missile System, including missile, launching and control devices, and associated equipment and related production base support.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

No funds are requested for FY 1981 and FY 1982 in this activity.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION Budget Program or Budget Project Account	Appropriation MISSILE PROCUREMENT, ARMY	FY 1981 Budget	
		(In Thousands of Dollars)	
		Actual Fiscal Year 1979	Estimate Fiscal Year 1980 Fiscal Year 1981
Activity 2 - Other Missiles			
Direct Obligations or Direct Budget Plan		\$ 613,700	\$ 890,600 \$ 1,146,500

Section 1 - PURPOSE AND SCOPE

Provides for procurement to surface-to-air, antitank/assault, surface-to-surface and air-to-surface missile systems; related ground support equipment; and initial issue and replacement of losses consumed in reliability firings, crew proficiency firings, and other training activities.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL Missile System - \$3.4 million is requested for smokeless rocket motors to replace shelf life motor losses

HAWK Air Defense Missiles - \$10.0 million is requested for replacement rocket motors.

US ROLAND Missile System - \$366.7 million is requested for 600 missiles and 23 fire units in support of the inventory objective. The US ROLAND will provide quick reaction, all-weather, short-range air defense protection for selected assets in the Corps area.

PATRIOT Missile System - \$469.6 million is requested to procure 183 missiles and 12 fire units for the PATRIOT missile system. PATRIOT is an improved system which will replace NIKE-HERCULES and HAWK and is better able to meet the threat of the 1980's and beyond.

STINGER Missile System - \$70.8 million is requested for procurement of 1356 STINGER missiles and ground support equipment. The program for FY 81 represents the fourth year of a planned nine-year procurement effort designed to fill the Army inventory objective. The STINGER, which replaces the obsolete REDEYE, has greater accuracy and a significantly improved engagement capability.

TOW Missile System - \$80.4 million is requested to procure 12,000 TOW missiles to support the inventory objective, ground support equipment and blast simulators needed for maintenance and training. The FY 1981 procurement program will afford continuation of a cost effective warm production base, providing a product improved tactical missile, needed to defeat the increasing armor threat.

2-17 1/21/80

FORMAT A

Department of the Army Annual Budget Estimates JUSTIFICATION		FY 1981
Appropriation	Budget Program or Budget Project Account	Budget
Missile Procurement, Army	Activity 2 - Other Missiles	

General Support Rocket System (GSRS) - \$114.2 million is requested to procure 2340 rockets, and associated ground support equipment. The GSRS is an 8.9-inch-diameter multiple rocket launcher system with tracked self-propelled launcher/loader, disposable pods, and fire control equipment. Its mission is to neutralize or suppress enemy field artillery, air defense systems, and supplement cannon artillery when targets exceed capabilities during surge conditions.

HELLFIRE - \$20.8 million is requested to begin provisioning of production facilities and procure long lead time items for the HELLFIRE missile system. The purpose of the HELLFIRE missile system is to defeat the current and future armor threat at long stand-off ranges. When mounted on the Advanced Attack Helicopter, AH 64, it will increase helicopter survivability and fire power.

DRAGON - \$8.6 million is requested for ground support equipment, test and training equipment for the Active Army less Combat engineers.

PERSHING - \$2.0 million is requested for telemetry for the operational firing program.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1981
	(In Thousands of Dollars)		Budget
			Estimate Fiscal Year 1982
Budget Program or Budget Project Account			
Activity 2 - Other Missiles			
Direct Obligations or Direct Budget Plan			\$ 1,785,400

Section 1 - PURPOSE AND SCOPE

Provides for procurement of surface-to-air, air-to-surface, antitank/assault, and surface-to-surface missile systems; related ground support equipment and initial issue and replacement of losses consumed in reliability firings, crew proficiency firings, and other training activities.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL Missile System - \$3.6 million is requested to continue procurement of replacement rocket motors for CHAPARRAL missiles to improve reliability of the system.

HAWK Air Defense Missiles - \$4.5 million is requested for replacement rocket motors to improve reliability of the system.

US ROLAND Missile System - \$500.3 million is requested to continue the procurement of the US ROLAND missile system. A five year hardware procurement effort is planned to satisfy the requirement for all-weather, short-range air defense protection for selected assets in the Corps area.

PATRIOT Missile System - \$575.2 million is requested for hardware procurement in FY 82. PATRIOT is a mobile air defense system consisting of a phased array radar set, engagement control station, power plant, and launching station, each mounted on a wheeled vehicle. The missile is mounted within a canister which serves both as a shipping container and launch tube.

STINGER Missile System - \$168.6 million is requested for the continuation of the procurement of the STINGER missile system. The program for FY 82 represents the fifth year of a planned nine-year procurement effort designed to fill the Army's inventory objective. The STINGER, scheduled to replace the obsolete REDEYE, has greater accuracy and a significantly improved engagement capability.

HELLFIRE Missile System - \$123.4 million is requested to initiate production of the HELLFIRE missiles system.

The purpose of the HELLFIRE missile system is to defeat the current and future armor threat at long stand-off ranges. When mounted on the Advanced Attack Helicopter, AH 64, it will increase helicopter survivability and fire power.

Department of the Army Annual Budget Estimates		FY 1981
JUSTIFICATION		Budget
Appropriation		Budget Program or Budget Project Account
Missile Procurement, Army		Activity 2 - Other Missiles

FORMAT A

TOW Missile System - \$94.0 million is requested for procurement of 12,000 improved missiles in support of the inventory objective and for blast simulators.

General Support Rocket System (GSR) - \$150.2 million is requested to continue procurement of tactical rockets, and associated ground support equipment. This is the third year of a nine-year procurement designed to fill the Army inventory objective. GSR is a self-propelled, fast-reacting, multiple rocket launcher which will provide a high volume of fire in a very short time against the surge threat.

PERSHING II - \$165.6 million is requested to initiate procurement of the PERSHING II (PII) Missiles and to procure telemetry for PERSHING Ia (PIa) annual service practice. PII missiles have added range and accuracy and will provide nuclear fire support to Supreme Allied Command, Europe in the Quick Reaction Alert Role.

FORMAT J

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army	FY 1981	
		Budget	
		(In Thousands of Dollars)	
Budget Program or Budget Project Account		Actual Fiscal Year 1979	Estimate Fiscal Year 1980 Fiscal Year 1981
Activity 3 - Modification of Missiles			
Direct Obligations or Direct Budget Plan		\$ 68,900	\$ 124,700 \$ 203,100

Section 1 - PURPOSE AND SCOPE

Provides for the modification of surface-to-air, surface-to-surface, and antitank missile systems.

CHAPARRAL - \$39.1 million is requested to provide the CHAPARRAL missile system with a Forward Looking Infrared (FLIR) sight capability improvement which allows target engagement during periods of darkness and limited visibility conditions, more than doubling the systems operability. It also initiates and completes procurement of redesigned Special Purpose Cable W30 to improve reliability, availability, and maintainability (RAM).

HAWK - \$25.9 million is requested for modifications to the Improved HAWK missile system to continue the second year of a multi-year effort to upgrade the capability of the missile to counter the advancing Electronic Countermeasures (ECM) Threat.

TOW - \$105.2 million is needed to procure and retrofit five-inch improved warheads for tactical missiles, to defeat the current armor threat (\$101.0 million); and to continue program to provide vehicular power source (TOW Vehicle Power Conditioner) for the system, when operated in combat vehicles (\$4.2 million).

LANCE - \$11.4 million is required to provide an improved non-nuclear LANCE warhead to increase payload effectiveness.

PERSHING - \$9.8 million is requested to upgrade PERSHING 1a (Pla) ground support equipment that is experiencing severe aging problems.

GRASSBLADE - \$ 11.1 million is requested for GRASSBLADE. The program content is classified SECRET "Limited Distribution-Special Access Required," precluding further description. Access to GRASSBLADE is controlled by the Deputy Chief of Staff for Research, Development, and Acquisition.

MODIFICATIONS LESS THAN \$900,000 - \$0.6 million is requested to provide a bipod brace spring and new carrying sling for DRAGON, a Shelter Heater/Ventilator for the Forward Area Alert Radar (FAAR) and improve the power inverter of FAAR.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation	FY 1981	
		Budget	
		(in Thousands of Dollars)	
		Estimate	Fiscal Year 1982
Budget Program or Budget Project Account	Missile Procurement, Army		
Activity 3 - Modification of Missiles			
Direct Obligations or Direct Budget Plan			\$ 296,800

Section 1 - PURPOSE AND SCOPE

Provides for the modification of surface-to-air, surface-to-surface, and antitank missile systems.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL - \$46.6 million is requested to complete procurement of the Forward Looking Infrared (FLIR) night capability improvement which permits target engagement during periods of darkness and limited visibility conditions, more than doubling the system operability. It also initiates procurement of improved, selected items from the pneumatic system to increase system reliability.

HAWK - \$22.4 million is requested for continuation of the Electronic Countermeasures (ECM) modification to the HAWK missile.

TOW - \$11.7 million is needed to procure and retrofit six-inch (full caliber) improved warheads for tactical missiles, and guidance system hardening, needed to defeat the advanced armor threat (\$107.4 million); and to complete providing TOW Vehicle power conditioners to operate the system when mounted in combat vehicles (\$4.3 million).

LANCE - \$13.6 million is requested to provide an improved nonnuclear LANCE warhead to increase payload effectiveness.

LCSS - \$0.9 million is requested to replace the tape reader, controller, and data processor assemblies to improve system reliability.

GRASSBLADE - \$100.2 million is requested for GRASSBLADE. The program content is classified SECRET "Limited Distribution - Special Access Required," precluding further description. Access to GRASSBLADE is controlled by the Deputy Chief of Staff for Research, Development, and Acquisition.

MODIFICATIONS LESS THAN \$900,000 - \$1.4 million is requested to complete the Shelter Heater/Ventilator and the power inverter projects for the Forward Area Alerting Radar.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army	FY 1981 Budget	
		(In Thousands of Dollars)	
		Actual Fiscal Year 1979	Estimate Fiscal Year 1980 Fiscal Year 1981
Budget Program or Budget Project Account			
Activity 4 - Spares and Repair Parts			
Direct Obligations or Direct Budget Plan		\$ 55,500	\$ 117,500 \$ 109,900

SECTION 1 - PURPOSE AND SCOPE

Provides for the procurement of initial provisioning and peacetime replenishment of repairable major assemblies and repair parts for surface-to-air and surface-to-surface and antitank missile systems and other support items.

SECTION 2 - JUSTIFICATION OF FUNDS REQUESTED

Required for the procurement of initial provisioning and peacetime replenishment requirements of centrally managed, high dollar value depot repairable components, assemblies, and repair parts which are not carried in Army Stock Fund inventories.

INITIAL PROVISIONING - \$79.6 million is requested for initial provisioning spares to support major item procurements as follows: \$45.3 million for U. S. ROLAND spares, \$20.4 million for PATRIOT spares, \$0.2 million for STINGER spares; \$2.8 million for General Support Rocket System (GSRs) spares; \$3.5 million for CHAPARRAL modifications spares; \$6.9 million for Improved HAWK modifications spares; \$0.3 million for TOW modifications spares; and \$0.2 million for Air Defense Target spares.

REPLENISHMENT REPAIR PARTS - \$30.3 million is requested for peacetime replenishment repair parts.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army (In Thousands of Dollars)	FY 1981	
		Budget	Estimate
Budget Program or Budget Project Account			
Activity 4 - Spares and Repair Parts			
Direct Obligations or Direct Budget Plan			
			\$ 157,200

SECTION 1 - PURPOSE AND SCOPE

Provides for the procurement of initial provisioning, peacetime replenishment, and mobilization reserve of repairable major assemblies and repair parts for surface-to-air, air-to-surface, surface-to-surface, and antitank missile systems and other support items.

SECTION 2 - JUSTIFICATION OF FUNDS REQUESTED

Required for the procurement of initial provisioning, peacetime replenishment, and mobilization reserve requirements of centrally managed, high dollar value depot repairable components, assemblies, and repair parts which are not carried in Army Stock Fund inventories.

INITIAL PROVISIONING - \$99.2 million is requested for initial provisioning spares to support major item procurements as follows: \$50.7 million for U. S. ROLAND spares; \$15.3 million for PATRIOT spares; \$0.3 million for STINGER SPARES; \$2.6 million for HELFIRE spares; \$15.7 million for PERSHING spares; \$3.6 million for General Support Rocket System (GSR) spares; \$3.4 million for CHAPARRAL modifications spares; \$7.4 million for Improved HAWK modifications spares; \$0.2 million for TOW modifications spares;

REPLENISHMENT REPAIR PARTS - \$58.0 million is requested for peacetime replenishment repair parts.

2-24 1/21/80

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1981 Budget
	Missile Procurement, Army		
	(In Thousands of Dollars)		
Budget Program or Budget Project Account	Actual Fiscal Year 1979	Estimate Fiscal Year 1980 Fiscal Year 1981	
Activity 5 - Support Equipment and Facilities			
Direct Obligations or Direct Budget Plan	\$ 23,800	\$ 29,700	\$ 41,800

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of support equipment, items less than \$900,000, production base support, and depot maintenance plant equipment in support of the Army missile program.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Air Defense Targets - \$8.5 million is requested for Ballistic Aerial Target System (BATS) and for continued production of the Variable Speed Training Target (VSTT) and procurement of other target missiles, towed targets, and ground support equipment.

This program provides target missiles for training of air defense personnel and for evaluation of air defense weapons systems.

Items Less Than \$900,000 - \$0.4 million for procurement of tool and test sets peculiar to missile system hardware maintenance and repair.

Production Base Support - \$32.9 million is requested to fund 33 projects. Twenty-seven projects totaling \$10.6 million are in the area of manufacturing methods and technology, and deal with the advancement of manufacturing techniques for various missile components. Five projects totaling \$3.0 million are related to Provision of Industrial Facilities (PIF) consisting of providing replacement or new equipment used for production testing of weapon systems and associated materials at White Sands Missile Range, rehabilitation of buildings at a Government-owned contractor-operated (GOCO) facility at Redstone Arsenal, and preparation of design criteria and specifications for submission to Corps of Engineers for execution of concept/final design and specification for construction. One project, of \$0.3 million, Layaway of Industrial Facilities, provides removal of Government-owned Industrial Plant Equipment (IPE), Military Property and Special acceptance Inspection Equipment (SAIE) from the Michigan Army Missile Plant. Additionally, \$19.0 million is requested for procurement of capital plant equipment required to support the depot maintenance mission.

Department of the Army - Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1981
	MISSILE PROCUREMENT, ARMY		
	(In Thousands of Dollars)		
Budget Program or Budget Project Account		Estimate	
Activity 5 - Support Equipment and Facilities		Fiscal Year 1982	
Direct Obligations or Direct Budget Plan			\$ 35,400

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of support equipment, items less than \$900,000, production base support, and depot maintenance plant equipment in support of the Army missile programs.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Air Defense Targets - \$9.5 million is requested for procurement of air defense target missiles, towed targets, and ground support equipment.

Items Less Than \$900,000 - \$0.3 million is requested for procurement of tool and test sets peculiar to missile systems hardware maintenance and repair.

Production Base Support - \$25.6 million is requested to support Manufacturing Methods and Technology (MM&T) projects (\$9.3 million), Provisions of Industrial Facilities (PIF) projects (\$2.8), Layaway of Industrial Facilities (\$0.7 million), Productivity Enhancing Capital Investments (\$7.0 million), and capital equipment in support of the depot maintenance mission (\$5.8 million).

MISSILE PROCUREMENT, ARMY

Section 5

Comparison of Program Requirements and Financing

Comparison of FY 1980 program requirements as reflected in FY 1980 budget with FY 1980 program requirements as shown in FY 1981 budget.

Comparison of FY 1980 financing as reflected in FY 1980 budget with FY 1980 financing as shown in FY 1981 budget.

Comparison of FY 1979 program requirements as reflected in FY 1980 budget with FY 1979 program requirements as shown in FY 1981 budget.

Comparison of FY 1979 financing as reflected in FY 1980 budget with FY 1979 financing as shown in FY 1981 budget.

2-27 1/21/80

COMPARISON OF FY 1980 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1980 BUDGET WITH
FY 1980 PROGRAM REQUIREMENTS AS SHOWN IN FY 1981 BUDGET

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
Appropriation:	Total Program Requirements Per FY 80 Budget	Program Requirements Per FY 1981 Budget	Increase (+) or Decrease (-)
Missile Procurement, Army			
Activity 1 - Antiballistic Missile System	-0-	-0-	-0-
Activity 2 - Other Missiles	1,020,700	890,600	-130,100
Activity 3 - Modification of Missiles	78,700	124,700	+ 46,000
Activity 4 - Spares and Repair Parts	117,500	117,500	-0-
Activity 5 - Support Equipment and Facilities	33,600	29,700	- 3,900
TOTAL	1,250,500	1,162,500	- 88,000

Explanation by Activity

Activity 2 - Other Missiles (-\$130,100) - Reductions of \$30.0 million in PATRIOT, \$29.5 million in TOW, and \$70.6 million in Pershing by Congress.

Activity 3 - Modification of Missiles (+\$46,000) - Increase of \$20.4 million in HAWK modifications directed by Congress. Increase of \$25.6 million in TOW modifications for warheads in FY 1980 prior approval reprogramming action.

Activity 5 - Support Equipment and Facilities (-\$3,900) - Reduction of \$3.0 million in Depot Maintenance Equipment and \$0.9 million in Production Base Support for prior approval reprogramming action for TOW Modifications.

COMPARISON OF FY 1980 FINANCING AS REFLECTED
IN THE FY 1980 BUDGET WITH FY 1980 FINANCING
AS SHOWN IN FY 1981 BUDGET

Appropriation:	(In Thousands of Dollars)		Increase (+) or Decrease (-)
	Financing Per FY 1980 Budget	Financing Per FY 1981 Budget	
Missile Procurement, Army			
Program Requirements, (Total)	1,766,800	\$1,562,500	- 204,300
Program Requirements (Service Account)	(1,250,500)	1,162,500	- 88,000
Program Requirements (Reimbursable)	(516,300)	(400,000)	- 116,300
Less:			
Anticipated reimbursements	516,300	400,000	- 116,300
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred from other accounts			
Add:			
Unobligated balance transferred to other accounts			
Unobligated balance available to finance subsequent year budget plans	1,250,500	\$1,162,500	- 88,000
BUDGET AUTHORITY			
Appropriation	1,250,500	1,140,800	
Transferred from Other Accounts	-0-	21,700	
Appropriation (adjusted)	1,250,500	1,162,500	

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1980 program has decreased \$204,300 million since preparation of the Fiscal Year 1980 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: \$116.3 million decrease in Foreign Military Sales.
2. Budget Authority: \$88.0 million decrease as result of a \$109.7 million reduction by Congressional action and a \$21.7million increase for a proposed TOW modification FY 1980 prior approval reprogramming.

2-29 1/21/80

COMPARISON OF FY 1979 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1980 BUDGET WITH
FY 1979 PROGRAM REQUIREMENTS AS SHOWN IN FY 1981 BUDGET

Appropriation:	SUMMARY OF REQUIREMENTS (In Thousands of Dollars)			
	Total Program Requirements Per FY 80 Budget	Program Requirements Per FY 1981 Budget	Increase (+) or Decrease (-)	
Missile Procurement, Army				
Activity 1 - Antiballistic Missile System	-0-	-0-	-0-	
Activity 2 - Other Missiles	613,500	613,700	+	200
Activity 3 - Modification of Missiles	72,700	68,900	-	3,800
Activity 4 - Spares and Repair Parts	29,200	55,500	+	26,300
Activity 5 - Support Equipment and Facilities	21,500	23,800	+	2,300
TOTAL	736,900	761,900	+	25,000

EXPLANATION BY ACTIVITY

Activity 2 - Other Missiles (+\$200) - A reduction of \$4.6 million in LANCE program for reprogramming of funds to CHAPARRAL missiles (\$4), HAWK missiles (\$1.5), and HAWK Modification (\$2.7). An increase of \$2.9 million for CHAPARRAL motors with funds from CHAPARRAL Modifications.

Activity 3 - Missile Modifications (-\$3,800) - A reduction of \$6.2 million in LANCE Modifications was reprogrammed to Spares and Repair Parts (\$1.3), TOW Modifications (\$1.7), Production Base Support (\$2.3), and Redeye Modifications (\$7) and Shillelagh modifications (\$2). A reduction of \$2.9 million in CHAPARRAL Modifications was reprogrammed to CHAPARRAL missiles. An increase of \$2.7 million in HAWK Modifications was reprogrammed from the LANCE program.

Activity 4 - Spares and Repair Parts (+\$26,300) - An increase of \$1.3 million in replenishment spares associated with FAAR resulted from reprogramming funds from LANCE Modifications. An increase of \$25.0 million was a result of reprogramming funds from other appropriations.

Activity 5 - Support Equipment and Facilities (+\$2,300) - An increase of \$2.3 million in Production Base Support was required to support GRASSBLADE. Land Combat Support Systems were reduced (\$1.0) and the funds reprogrammed to Items Less than \$900,000.

2-30 1/21/80

COMPARISON OF FY 1979 FINANCING AS REFLECTED
IN THE FY 1980 BUDGET WITH FY 1979 FINANCING
AS SHOWN IN FY 1981 BUDGET

	(In Thousands of Dollars)	
	Financing Per FY 1980 Budget	Financing Per FY 1981 Budget
Appropriation:		
Missile Procurement, Army		
Program Requirements, (Total)	1,232,900	1,139,818
Program Requirements (Service Account)	(736,900)	(761,900)
Program Requirements (Reimbursable)	(496,000)	(377,918)
Less:		
Anticipated reimbursements	496,000	377,918
Reprogramming from prior year budget plans		
Unobligated balance available from prior year to finance new budget plans		
Unobligated balance transferred from other accounts		
Add: Unobligated balance transferred to other accounts		
Unobligated balance available to finance subsequent year budget plans	736,900	761,900
	BUDGET AUTHORITY	
		+ 25,000

BUDGET AUTHORITY

Appropriation.....	736,900	736,900	
Transferred from Other Accounts.....	-0-	25,000	+ 25,000
Appropriation (adjusted).....	736,900	761,900	+ 25,000

EXPLANATION OF CHANGES IN FINANCING

This Fiscal Year 1979 program has decreased \$93.1 million since preparation of the Fiscal Year 1980 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: \$118.1 million decrease in Foreign Military Sales Program.
2. Budget Authority: \$25.0 million increase by Congressional action for Missile Spares and Repair Parts.

2-31 1/21/80

MISSILE PROCUREMENT, ARMY

Section 6

Selected Data Sheets

NOT USED

2-32 1/21/80

MISSILE PROCUREMENT, ARMY

Section 7

Analysis of Unobligated Balances

2-33 1/21/80

MISSILE PROCUREMENT, ARMY

Analysis of Unobligated Balances - FY 1981 Program Summary by Category

Estimated Unobligated Dollars	% of Total (Millions)	Unobligated
-------------------------------	-----------------------	-------------

Category

1. Reserved to support contracts
2. Engineering changes
3. Other

233.9	70.1
45.7	13.7
54.1	16.2
333.7	100%

TOTAL Unobligated FY 1981

Explanation by Category

Based on past experience, it is predicted that the above amounts will remain unobligated at the end of FY 81. Reasons for the unobligated balance have been grouped into three general categories, and are detailed below. These unobligated amounts will therefore be required in subsequent years to complete the procurement of the FY 81 program.

1. Reserved to Support Contracts:

- a. Held pending award of firm contracts as opposed to letter orders.
- b. Amounts reserved for incentive contract payments.
- c. Amounts held to support Product and Component Improvement Programs: modification of missiles during production; modification ordered by customers.
- d. Contractor claims, amounts required to cover liabilities for contracts containing escalation clauses for labor or material cost increases and price redeterminations.
- e. Contract close-out costs; packing, crating, handling, and packaging and loading charges.
- f. Government-furnished equipment breakout procurements; preparation of manuals and technical data; reserve for completion of construction elements of production vase support facilities projects.
- g. Delay due to design or testing difficulties.
- h. Update technical data or procurement package.

MISSILE PROCUREMENT, ARMY (Continued)

2. Engineering Changes:

- a. Engineering services in support of production (unobligated only as expenses are incurred).
- b. Validated engineering change orders to be incorporated into the current manufacturing process.
- c. Engineering changes as a result of acceptance testing.
- d. Amounts reserved to support engineering changes and value engineering proposals.

3. Other:

- a. Additional time required to complete audits of cost data and to obtain contract cost data.
- b. Unfavorable preaward surveys and extended negotiations with contractors.

MISSILE PROCUREMENT, ARMY

Section 8

Modification of Missiles (Exhibit P-33)

<u>P-1 Numbers</u>	<u>Item Nomenclature</u>	<u>Page No.</u>
	MISSILE MODIFICATION PROGRAM	
	CHAPARRAL	
12		2-38
13	HAWK	2-41
15	TOW	2-42
17	LANCE	2-44
18	LCSS	2-45
19	PERSHING	2-46
20	Modifications Less Than \$900,000	2-47
21	GRASS BLADE	2-48

2-36 1/21/80

MISSILE MODIFICATION, ARMY

FY 1981 PRESIDENT'S BUDGET

	Missile/Mod No.	FY 1981		FY 1982	
		Quantity	FY 81 Cost \$	Quantity	FY 82 Cost \$
CHAPARRAL	PIP 1-80-03-0306	--	37.8	--	45.0
	PIP 1-80-03-0309	--	--	--	1.6
	PIP 1-81-03-0312	--	1.3	--	--
HAWK	PIP 1-79-03-0119	--	25.9	--	-2.4
	PIP 1-79-03-3017	2400	4.2	2277	4.3
TOW	PIP 1-79-03-3018	18000	101.0	9490	107.4
LANCE	PIP 1-77-02-0017	--	11.4	--	13.6
LCSS	PIP 1-80-03-0217	--	--	--	0.9
PERSHING	PIP 1-79-03-0427	--	9.8	--	--
<u>Modifications Less Than \$900,000</u>					
	PIP 1-78-03-2205		0.3		0.0
	PIP 1-79-03-0702		0.1		0.7
	PIP 1-80-03-0706		0.2		0.7

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: CHAPARRAL Guided Missile Intercept, Aerial MIM-72-A/C

Missile Modification Title:

Night Capability - PIP 1-80-03-0306

Pneumatic System - PIP 1-80-03-0309

Special Purpose Cable W30 - PIP 1-81-03-0312

Description/Justification:

PIP 1-80-03-0306 - The night capability improvement when added to the CHAPARRAL fire Unit will enable the operator to detect and engage aircraft during periods of darkness and limited visibility conditions. The principle elements of this improvement are a Forward Looking Infrared (FLIR) thermal imaging device, optics, display, autotrack and controls. Note: The present system missiles have the capability to track and engage aircraft during darkness and limited visibility, but the system is presently limited by the necessity for the operator to visually detect and acquire aircraft for the missiles. The night sight will more than double the percent of a 24-hour day in which the system may operate.

PIP 1-80-03-0309 - This Reliability Improvement of Selected Equipments (RISE) PIP results from the low Mean Time Between Failure (MTBF) of the CHAPARRAL Air Compressor and its associated pneumatic system and the consequent excessive depot overhaul requirements and logistics costs. Selected items from the entire pneumatic system, as well as the compressor itself, will be improved or replaced with more suitable and reliable items. To the maximum extent possible, program will consist of improvements to existing items or replacement with items currently designed and in production.

PIP 1-81-03-0312 - The purpose of this PIP is to redesign the present W30 Special Purpose Cable, APN 10231962 to make it more maintainable and easier to replace in the field. The W30 cable is a multi-connector cable that goes from the front of the Fire Unit to the aft electrical compartment. This cable has caused considerable problems in the field, in that, when one of the connectors or part of the cable is damaged, the whole cable assembly has to be replaced. Replacing the cable requires approximately 120 man-hours of effort and is a difficult task to perform. The redesigned cable will be constructed into two or three sections and will be field repairable.

CHAPARRAL Guided Missile Intercept, Aerial MIM-72-A/C (Continued)

Development Status:

<u>PIP 1-80-03-0306</u>	-	Initiate Engineering Effort	-	1QFY80
		Hardware Contract Award	-	3QFY81
		First Hardware Delivery	-	2QFY82
		Start Installation	-	1QFY83
		Complete Installation	-	4QFY84
 <u>PIP 1-80-03-0309</u>	 -	 Initiate Engineering Effort	 -	 1QFY80
		Hardware Contract Award	-	2QFY82
		First Hardware Delivery	-	1QFY83
		Start Installation	-	2QFY83
		Complete Installation	-	4QFY85
 <u>PIP 1-81-03-0312</u>	 -	 Initiate Engineering Effort	 -	 1QFY81
		Hardware Contract Award	-	4QFY81
		First Hardware Delivery	-	4QFY82
		Start Installation	-	N/A
		Complete Installation	-	N/A

CHAPARRAL Guided Missile Intercept, Aerial MIM-72-A/C (Continued)

Scope of Program:

FY 1979 & Prior Years	FY 1980		FY 1981		FY 1982		Future		Total	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-80-03-0306										
MIPA			244	37.8		45.0			488	82.8
RDTE		6.1	-	6.4		-			-	12.5
OMA			-	.4		.2		2.9	-	3.5
PIP 1-80-03-0309										
MIPA		-	-	-	100	1.6	445	7.8	545	9.4
RDTE		-	-	-	-	-	-	1.7	-	3.8
OMA		1.0	-	.5	-	.6	-	-	-	-
PIP 1-81-03-0312										
MIPA			500	1.3	-	-	-	-	500	1.3
RDTE			-	-	-	-	-	-	-	-
OMA			-	.08	-	.01	-	.01	-	.1

Basis for Cost Estimate: Analytical and engineering techniques.

Method of Implementation: Field installation by contractor/Government contract teams.

2-40 1/21/80

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: Improved HAWK System - Surface-to-Air

Missile Modification Title: Missile ECM Update - PIP 1-79-03-0119

Description/Justification:

PIP 1-79-03-0119 - Updates the electronic countermeasure capability of the HAWK missile to retain a high kill probability in the advanced threat environment.

- PIP 1-79-03-0119 - Prototype Delivery
- April 1980
 - May 1981
 - June 1980
 - December 1981
- Testing Complete
Production Contract Award
First Production Delivery

Scope of Program:

FY 1979 & Prior Years	FY 1980		FY 1981		FY 1982		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
1.7		5.8		25.9		22.4		31.3		85.8
		6.4		4.0		0		0		13.0
		.2		1.6		1.3		.2		3.3

PIP 1-79-03-0119

MIPA

RDTE

OMA

2-41 1/21/80

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: TOW (BCM -71A, BTM-71A) (Heavy Antitank Guided Missile System).

Missile Modification Title:

TOW Vehicle Power Conditioner (TVPC) - P.L. 1-79-03-3017

Improved TOW Missile - PIP 1-79-03-3018

Description/Justification:

PIP 1-79-03-3017 - This modification will provide a vehicular power source for the ground TOW system, when mounted in combat vehicles. The internal batteries of the missile guidance set are unreliable; often failing to hold the expected energy after recharged.

PIP 1-79-03-3018 - This modification will provide improved five-inch warheads (FY 1981 program) and improved six-inch (full caliber) warheads and guidance system hardening against electro-optical countermeasures (FY 1982 and later year program).

Development Status:

Event

Initiate Engineering Effort
Hardware Contract Award
First Hardware Delivery
Start Installation
Complete Installation

PIP-1-79-03-3017

1QFY79
4QFY79
3QFY80
4QFY80
4QFY83

PIP 1-79-03-3018

2QFY79
2QFY80
1QFY81
3QFY81
4QFY86

2-42

1/21/80

TOW (RGM-71A, BTM-71A) (Heavy Antirank Guided Missile System) (Continued)

Scope of Program:

	FY 1979 Amt (\$M)	FY 1980 Amt (\$M)	FY 1981 Amt (\$M)	FY 1982 Amt (\$M)	Future Years Amt (\$M)	Total Program Amt (\$M)
PIP 1-79-03-3017						
MIPA	1.9	3.0	4.2	4.3	-	13.4
RDTE	0.1	-	-	-	-	0.1
OMA	-	-	0.3	-	-	0.3
PIP 1-79-03-3018						
MIPA	-	25.6	101.0	107.4	89.9	323.9
RDTE	15.7	26.2	17.7	6.5	-	66.1
OMA	-	-	-	-	-	-

Basis for Cost Estimate: Analytical and engineering techniques.

Method of Implementation: Installation by contractor and/or Government contact teams.

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: LANCE Missile System

Missile Modification Title:

FY 81 and FY 82 Improved Nonnuclear LANCE (INNLC) - PIP 1-77-02-0017

Description/Justification:

PIP 1-77-02-0017 - Significantly increases effectiveness of NNL Warhead by developing a high density fragmenting bomblet at only a moderate increase in cost.

Development Status:

PIP 1-77-02-0017 - In Production

SCOPE OF PROGRAM:

FY 1979 & Prior Years	FY 1980		FY 1981		FY 1982		Future		Total	
	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Program	Amt
	0		0		11.4		13.6		0	25.0
	0		0		.6		1.7		0	2.3

PIP 1-77-02-0017

MIPA

OMA

Basis for Cost Estimates:

PIP 1-77-02-0017 - Project estimates.

Method of Implementation:

PIP 1-77-02-0017 - Present warheads will be retrofitted at Milan Army Ammunition Plant (MAAP).

2-44 1/21/80

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: Land Combat Support System (LCSS)

Missile Modification Title: LCSS Microprocessor - PIP 1-80-03-0217

Description/Justification:

PIP 1-80-03-0217 - Proposes to replace the Tape Reader, Controller, and Date Processor assemblies. Present units are obsolete and are difficult to repair.

Development Status:

PIP 1-80-03-0217 - Hardware production in FY 82.

Scope of Program:

	FY 1979 & Prior Years		FY 1980 Current Year		FY 1981 Budget Year		FY 1982 Budget Year + 1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-76-03-0007												
MIPA	0	0		0		0		0.9		1.3		2.2
OMA	0			0.9		1.3		0.3		0.5		3.0

Basis for Cost Estimates:

PIP 1-80-03-0217 - Based on Project Office estimates.

Method of Implementation: By Depot Mod Teams during their programmed MOD installation visits to worldwide sites.

MISSILE MODIFICATION
(\\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: PERSHING IA Missile System

Missile Modification Title: PIP 1-79-03-0427 Life Extension Program (LEP)

Description/Justification:

PIP 1-79-03-0427 - To Improve P1a ground support equipment to extend the life of the system.

Development Status:

PIP 1-79-03-0427 - Initial upgrade of old equipment.

Scope of Program:

	FY 1979 Prior Year	FY 1980	FY 1981	FY 1982	Future Years	Total Program
PIP 1-79-03-0427						
NIPA	0	0	9.8	0	0	9.8
OMA	1.1	.8	1.0	0	0	2.9

Basis for Cost Estimates: PERSHING Project estimate.

Method of Implementation:

PIP 1-79-03-0427 - Equipment will be examined, modified/refurbished, tested and inspected by contractor Mod Teams at government furnished facilities in theater.

MISSILE MODIFICATIONS
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Modification Title: Modifications Less than \$900,000

Description/Justification:

PIP 1-78-03-2205 - This DRAGON modification will incorporate a bipod brace flat spring into the round and provide a new carrying sling for the round.

PIP 1-79-03-0702 - This Forward Area Alerting Radar (FAAR) modification will provide a Shelter Heater/Ventilator to reduce moisture inside the shelter while providing heating/ventilation and drying of the environment.

PIP 1-80-03-0706 - This modification incorporates newer inverter subassemblies to improve reliability, availability and maintainability of the FAAR power inverter.

Scope of Program

	FY 79 and Prior Years	FY 80	FY 81	FY 82	Future Years	TOTAL Program
PIP 1-78-03-2205						
MIPA	0.0	0.0	0.306	0.0	0.0	0.306
RDTE	0.016	0.0	0.0	0.0	0.0	0.016
PIP 1-79-03-0702						
MIPA	0.0	0.0	0.106	0.668	0.0	0.774
OMA	0.0	0.0	0.053	0.100	0.309	0.462
PIP 1-80-03-0706						
MIPA	0.0	0.0	0.200	0.700	0.0	0.900
OMA	0.0	0.0	0.090	0.096	0.034	0.220
Stock Fund	0.0	0.0	0.031	0.031	0.034	0.096

Basis for Cost Estimates: Project estimates and engineering techniques.

Method of Implementation: Improvements will be retrofitted by materiel work orders to be applied worldwide by Army depot teams.

MISSILE MODIFICATION
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Modification Title: GRASSBLADE

Description/Justification: GRASSBLADE is classified SECRET "Limited Distribution Special Access Required" precluding further description. Access to GRASSBLADE is controlled by the Deputy Chief of Staff for Research, Development, and Acquisition.

Scope of Program:

	FY 1979 Prior Year	FY 1980	FY 1981	FY 1982	Future Years	Total Program
NIPA	0	0	11.1	100.2	292.9	404.2
OMA	0	0	0	0	.9	.9

MISSILE PROCUREMENT, ARMY

Section 9

Flight Simulators

NOT USED

2-49 1/21/80

MISSILE PROCUREMENT, ARMY

Section 10

War Reserves - Secondary Items

(TO BE FURNISHED SEPARATELY)

2-50 1/21/80

DISTRIBUTION

HAC	DAMI
SAC	DAMO
HASC	DAPE
SASC	DAMA-PP
HBC	DAMA-CA
SBC	DAMA-PPP
CBO	DAMA-PPR
ASD(C)	DAMA-PPT
ASD(DFOISR)	DAMA-WS
ASA(IL&FM)	DAMA-WSA
ASA(RDA)	DAMA-WSM
ASA(M&RA)	DAMA-WSW
DACS-DC	DAMA-CS
DACS-BMZ-A	DAMA-CSC-B
DACS-Df	DAMA-CSM
DACA-BUB	DAMA-CSS
DACA-BUS	DALO
DACA-BUR	DAEN-ZCE
DACA-BU	DAMH
DAAG-OPZ-D	NGB
DAAC-RM-BB	DAAR
OCLL	DASG
	NAVY
	AIR FORCE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (in 5 parts) Department of the Army Justification of Estimates for Fiscal Year 1981, Submitted to Congress Jan- uary 1980, Procurement Programs, Aircraft, Missiles Wpns & Tracked Cht Veh, Ammunition and Other Proc, Army		5. TYPE OF REPORT & PERIOD COVERED Army Procurement Budget Justification, FY 1981
7. AUTHOR(s) Department of the Army		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-PPP-B) Washington, D.C. 20310		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-AOA-S) Washington, D.C. 20310		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE January 1980
		13. NUMBER OF PAGES 421 (includes all 5 parts)
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Procurement Programs Budget Justification Book covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition and Other Procurement, Army Appropriations programs submitted by the Army to Congress January 1980 for Fiscal Year 1981.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) In justification of programs requested, this document, in separate volume for each of the five Procurement Appropriations, provides backup data for the Army Budget submission for FY 1981. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (This document has been declassified for NTIS distribution). * missile		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)